

Exhibit K – Part 3

'851 Patent Anticipated or Rendered Obvious by Figure 1 of the '851 Patent, the Datasheet of Related Device PWR-SMP211, and PS07 schematics ("PS07")

U.S. Patent No. 6,107,851	Anticipated or Rendered Obvious
1. A pulse width modulated switch comprising:	The SMP211 device in Figure 1 of the '851 is a pulse width modulated switch
a first terminal;	Figure 3 of the SMP211 datasheet shows a MOSFET switch with a drain
a second terminal;	Figure 3 of the SMP211 datasheet shows a MOSFET switch with a source
a switch comprising a control input, said switch allowing a signal to be transmitted between said first terminal and said second terminal according to a drive signal provided at said control input;	Figure 3 of the SMP211 datasheet shows a MOSFET switch with a gate terminal that controls the switch, driven by a gate driver with a drive signal.
a frequency variation circuit that provides a frequency variation signal;	The specification of '851 describes resistor 140 of Figure 1 as a frequency variation circuit. The current into terminal 125 can be viewed as being the frequency variation signal. Or, the resulting voltage bias out of the bandgap block, shown in the PS07 schematics, that sets current levels in the oscillator can be thought as being the frequency variations signal.
an oscillator that provides an oscillation signal having a frequency range, said frequency of said oscillation signal varying within said frequency range according to said frequency variation signal, said oscillator further providing a maximum duty cycle signal comprising a first state and a second state; and	Figure 3 of the SMP211 datasheet shows an oscillator whose frequency varies with respect to a bias voltage that varies. The oscillator generates a D _{MAX} signal that drives a 3-input NAND gate, which then drives a gate driver.
a drive circuit that provides said drive signal when said maximum duty cycle signal is in said first state and a magnitude of said oscillation signal is below a variable threshold level.	Figure 3 of the SMP211 datasheet shows the drive signal has a duty cycle that cannot be greater than the duty cycle of D _{MAX} from the oscillator. Moreover, a PWM comparator compares the sawtooth signal out of the oscillator with the output of the error amplifier to set the duty cycle of the switch.
2. The pulse width modulated switch of claim 1 wherein said first terminal, said second terminal, said switch, said oscillator, said frequency variation circuit and said drive circuit comprise a monolithic device.	It is inherent or would be obvious to combine all of the pulse width modulated switch circuitry with frequency variation circuitry into a single monolithic device, consistent with trends in the semiconductor industry.
4. The pulse width modulated switch of	The circuit shown in Figure 1 of '851 and the

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claim 1 further comprising a soft start circuit that provides a signal instructing said drive circuit to discontinue said drive signal when said magnitude of said oscillation signal is greater than a magnitude of said frequency variation signal.	SMP211 device anticipate all elements of claim 1. It is inherent or would be obvious that the frequency variation signal could also be used as a soft start signal.
7. The pulse width modulated switch of claim 1 wherein said frequency of said oscillation signal varies within said frequency range with a magnitude of said frequency variation signal.	The circuit shown in Figure 1 of '851 and the SMP211 device anticipate all elements of claim 1. Furthermore, the oscillation frequency of the oscillator varies within a range with respect to the magnitude the frequency variation signal.
9. The pulse width modulated switch of claim 1 further comprising;	The circuit shown in Figure 1 of '851 and the SMP211 device anticipate all elements of claim 1.
a rectifier comprising a rectifier input and a rectifier output, said rectifier input receiving an AC mains signal and said rectifier output providing a rectified signal;	Figure 1 of '851 shows a diode bridge rectifier with an AC input and DC output.
a power supply capacitor that receives said rectified signal and provides a substantially DC signal;	Figure 1 of '851 shows a power supply capacitor across the rectified DC output of the diode bridge rectifier.
a first winding comprising a first terminal and a second terminal, said first winding receiving said substantially DC signal, said second terminal of said first winding coupled to said first terminal of said switch; and	Figure 1 of '851 shows a transformer with one winding connected to the drain terminal of SMP211 device and the rectified DC voltage.
a second winding magnetically coupled to said first winding.	Figure 1 of '851 shows a second winding magnetically coupled to the first winding and connected to the output (which should be DC OUT).
10. The pulse width modulated switch of claim 1 wherein said variable threshold level is a function of a feedback signal received at a feedback terminal of said pulse width modulated switch.	The circuit shown in Figure 1 of '851 and the SMP211 device anticipate all elements of claim 1. Moreover, the functional block diagram (Figure 3) of the PWR-SMP211 datasheet shows the variable threshold into the PWM comparator is connected to the feedback terminal of the device.
11. A regulation circuit comprising:	The SMP211 device in Figure 1 of the '851 is a regulation circuit.
a first terminal;	Figure 3 of the SMP211 datasheet shows a MOSFET switch with a drain
a second terminal;	Figure 3 of the SMP211 datasheet shows a MOSFET switch with a source

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a feedback terminal coupled to disable the regulation circuit;	Figure 3 of the SMP211 datasheet shows several terminals (Feedback, EA in, Fault, V _{OV}) that can all disable the regulation circuit.
a switch comprising a control input, said switch allowing a signal to be transmitted between said first terminal and said second terminal according to a drive signal provided at said control input;	Figure 3 of the SMP211 datasheet shows a MOSFET switch with a gate terminal that controls the switch, driven by a gate driver with a drive signal.
a frequency variation circuit that provides a frequency variation signal;	The specification of '851 describes resistor 140 of Figure 1 as a frequency variation circuit. The current into terminal 125 can be viewed as being the frequency variation signal. Or, the resulting voltage bias out of the bandgap block, shown in the PS07 schematics, that sets current levels in the oscillator can be thought as being the frequency variations signal.
an oscillator that provides an oscillation signal having a frequency range, said frequency of said oscillation signal varying within said frequency range according to said frequency variation signal, said oscillator further providing a maximum duty cycle signal comprising a first state and a second state; and	Figure 3 of the SMP211 datasheet shows an oscillator whose frequency varies with respect to a bias voltage that varies. The oscillator generates a D _{MAX} signal that drives a 3-input NAND gate, which then drives a gate driver.
a drive circuit that provides said drive signal when said maximum duty cycle signal is in said first state and said regulation circuit is not disabled.	Figure 3 of the SMP211 datasheet shows that the drive signal has a duty cycle that cannot be greater than the duty cycle of D _{MAX} from the oscillator. As long as the regulation circuit is not disabled, a PWM comparator compares the sawtooth signal out of the oscillator with the output of the error amplifier to set the duty cycle of the switch.
13. The regulation circuit of claim 11 further comprising a soft start circuit that provides a signal instructing said drive circuit to discontinue said drive signal according to a magnitude of said frequency variation signal.	The circuit shown in Figure 1 of '851 and the SMP211 device anticipate all elements of claim 11. It is inherent or would be obvious that the frequency variation signal could also be used as a soft start signal.
16. The regulation circuit of claim 11 wherein said first terminal, said second terminal, said switch, said frequency variation circuit, and said drive circuit comprise a monolithic device.	It is inherent or would be obvious to combine all of the regulation circuitry with frequency variation circuitry into a single monolithic device, consistent with trends in the semiconductor industry.
17. The regulation circuit of claim 11 further comprising;	The circuit shown in Figure 1 of '851 and the SMP211 device anticipate all elements of claim 11.

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a rectifier comprising a rectifier input and a rectifier output, said rectifier input receiving an AC mains signal and said rectifier output providing a rectified signal;	Figure 1 of '851 shows a diode bridge rectifier with an AC input and DC output.
a power supply capacitor that receives said rectified signal and provides a substantially DC signal;	Figure 1 of '851 shows a power supply capacitor across the rectified DC output of the diode bridge rectifier.
a first winding comprising a first terminal and a second terminal, said first winding receiving said substantially DC signal, said second terminal of said first winding coupled to said first terminal of said switch; and	Figure 1 of '851 shows a transformer with one winding connected to the drain terminal of SMP211 device and to the rectified DC voltage.
a second winding magnetically coupled to said first winding.	Figure 1 of '851 shows a second winding magnetically coupled to the first winding and connected to the output (which should be DC OUT).

'851 Patent Anticipated or Rendered Obvious by SGS-Thomson Application Note AN376 ("AN376") and datasheets for related devices TEA2260/61 ("TEA2260")

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1. A pulse width modulated switch comprising:	TEA2260/61 datasheet pp. 2 and 3: The TEA2260 is a switch mode power controller using a PWM generator. Two embodiments of the TEA2260 anticipate the claims of the '366 patent.
a first terminal;	<p>In the first embodiment:</p> <p>TEA2260/61 datasheet p. 3, Block Diagram: The TEA2260 switch has a first terminal, V+, shown as pin 15.</p> <p>In the second embodiment:</p> <p>TEA2260/61 datasheet p. 2, Figure 2: The first terminal is the terminal of the external transistor connected to one terminal of the primary winding of the transformer.</p>
a second terminal;	<p>In the first embodiment:</p> <p>TEA2260/61 datasheet p. 3, Block Diagram: The TEA2260 switch has a second terminal, OUT, shown as pin 14.</p> <p>In the second embodiment:</p> <p>TEA2260/61 datasheet p. 2, Figure 2: The second terminal is the terminal of the external transistor connected to ground through a sense resistor.</p>
a switch comprising a control input, said switch allowing a signal to be transmitted between said first terminal and said second terminal according to a drive signal provided at said control input;	<p>In the first embodiment:</p> <p>TEA2260/61 datasheet p. 3, Block Diagram: The TEA2260 switch includes a switch, i.e., a gate drive transistor switch, which has a control input (from a positive output stage). The gate drive transistor switch allows a signal to be transmitted between the first terminal, V+, and the second terminal, OUT, according to a drive signal provided at the control input from the positive output stage.</p> <p>In the second embodiment:</p> <p>TEA2260/61 datasheet p. 2, Figure 2: The TEA2260 is connected to a switch comprising a control input, the switch allowing a signal to be transmitted between the first terminal and the second terminal according to a drive signal provided at said control input.</p>
a frequency variation circuit that provides a	In both embodiments:

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frequency variation signal;	AN376 (p. 32) Figure 44 teaches a frequency variation circuit consisting of a npn transistor that sinks current from pin 11, along with RC drive circuit to its base terminal. The operation is described on p. 32. Voltage on pin 11 is the frequency variation signal.
an oscillator that provides an oscillation signal having a frequency range, said frequency of said oscillation signal varying within said frequency range according to said frequency variation signal, said oscillator further providing a maximum duty cycle signal comprising a first state and a second state; and	<p>In both embodiments:</p> <p>TEA2260/61 datasheet p. 3, Block Diagram: The TEA2260 switch includes an oscillator, which provides a maximum duty cycle signal, i.e., a pulse signal, comprising an on-state and an off-state. This oscillator provides an oscillation signal that varies with respect to the voltage on pin 11.</p> <p>AN376 p. 12, Figure 14: "An auxiliary PWM generates a maximum duty cycle conduction signal (β), by comparing the sawtooth with an internal fixed voltage." The sawtooth is generated by the oscillator and its frequency varies with respect to the voltage on pin 11.</p>
a drive circuit that provides said drive signal when said maximum duty cycle signal is in said first state and a magnitude of said oscillation signal is below a variable threshold level.	<p>In both embodiments:</p> <p>TEA2260/61 datasheet p. 3, Block Diagram: The TEA2260 includes a drive circuit, which provides the drive signal according to the maximum duty cycle signal. Furthermore, one of the modulators compares the oscillator sawtooth to the variable threshold level, error amplifier output (S), in order to set the duty cycle of the drive signal.</p> <p>AN376 p. 12 and 13, Figure 15: "A logic 'AND' between signals (α) and (β) provides the primary regulator output signal T_A." T_A feeds the drive circuit that creates the drive signal. Figure 14 on p. 12 shows that the rising edge of α varies with ϵ. This rising edge determines the duty cycle of the drive signal.</p>
2. The pulse width modulated switch of claim 1 wherein said first terminal, said second terminal, said switch, said oscillator, said frequency variation circuit and said drive circuit comprise a monolithic device.	<p>It is inherent or would be obvious to combine all of the pulse width modulated switch circuitry with frequency variation circuitry into a single monolithic device, consistent with trends in the semiconductor industry.</p> <p>This is validated by the fact that a subsequent device in the series, TEA2262, incorporates the frequency variation circuit into the device.</p>
4. The pulse width modulated switch of claim 1 further comprising	It is inherent or would be obvious that the frequency variation signal could also be used as a soft start

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a soft start circuit that provides a signal instructing said drive circuit to discontinue said drive signal when said magnitude of said oscillation signal is greater than a magnitude of said frequency variation signal.	signal.
7. The pulse width modulated switch of claim 1 wherein said frequency of said oscillation signal varies within said frequency range with a magnitude of said frequency variation signal.	The oscillation frequency of the oscillator varies within a range between 10kHz and 40kHz, with respect to the magnitude of the voltage on pin 11.
9. The pulse width modulated switch of claim 1 further comprising;	In the second embodiment: The TEA2260 meets every element of claim 1, as set forth above.
a rectifier comprising a rectifier input and a rectifier output, said rectifier input receiving an AC mains signal and said rectifier output providing a rectified signal;	TEA2260/61 datasheet p. 2, Figure 2: The TEA2260 discloses a rectifier comprising an input and an output with the input receiving an AC mains signal and the output providing a rectified signal.
a power supply capacitor that receives said rectified signal and provides a substantially DC signal;	TEA2260/61 datasheet p. 2, Figure 2: The TEA2260 discloses a power supply capacitor that receives the rectified signal from the rectifier and provides a substantially DC signal.
a first winding comprising a first terminal and a second terminal, said first winding receiving said substantially DC signal, said second terminal of said first winding coupled to said first terminal of said switch; and	TEA2260/61 datasheet p. 2, Figure 2: The TEA2260 discloses a first winding having a first terminal and a second terminal. The first winding receives the substantially DC signal with the second terminal of the first winding coupled to the first terminal of the pulse modulated switch.
a second winding magnetically coupled to said first winding.	TEA2260/61 datasheet p. 2, Figure 2: The TEA2260 discloses a second winding magnetically coupled to the first winding.
10. The pulse width modulated switch of claim 1 wherein said variable threshold level is a function of a feedback signal received at a feedback terminal of said pulse width modulated switch.	TEA2260/61 datasheet Figure 2 and Block Diagram pp. 2 and 3: Figure 2 shows a feedback signal from the opto-coupler to the TEA2260/61 device. The block diagram shows that the feedback signal, which connects to the input of the error amplifier, sets the variable threshold input to the modulator.
11. A regulation circuit comprising:	TEA2260/61 datasheet pp. 2 and 3: The TEA2260 is a switch mode power supply controller. Two embodiments of the TEA2260 anticipate the claims of the '366 patent.

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a first terminal;	<p>In the first embodiment:</p> <p>TEA2260/61 datasheet p. 3, Block Diagram: The TEA2260 switch has a first terminal, V+, shown as pin 15.</p> <p>In the second embodiment:</p> <p>TEA2260/61 datasheet p. 2, Figure 2: The first terminal is the terminal of the external transistor connected to one terminal of the primary winding of the transformer.</p>
a second terminal;	<p>In the first embodiment:</p> <p>TEA2260/61 datasheet p. 3, Block Diagram: The TEA2260 switch has a second terminal, OUT, shown as pin 14.</p> <p>In the second embodiment:</p> <p>TEA2260/61 datasheet p. 2, Figure 2: The second terminal is the terminal of the external transistor connected to ground through a sense resistor.</p>
a feedback terminal coupled to disable the regulation circuit;	<p>TEA2260/61 datasheet p. 3, Block Diagram shows several terminals (C2, IS, I_{MAX}) that can disable the regulation circuit.</p>
a switch comprising a control input, said switch allowing a signal to be transmitted between said first terminal and said second terminal according to a drive signal provided at said control input;	<p>In the first embodiment:</p> <p>TEA2260/61 datasheet p. 3, Block Diagram: The TEA2260 switch includes a switch, i.e., a gate drive transistor switch, which has a control input (from a positive output stage). The gate drive transistor switch allows a signal to be transmitted between the first terminal, V+, and the second terminal, OUT, according to a drive signal provided at the control input from the positive output stage.</p> <p>In the second embodiment:</p> <p>TEA2260/61 datasheet p. 2, Figure 2: The TEA2260 is connected to a switch comprising a control input, the switch allowing a signal to be transmitted between the first terminal and the second terminal according to a drive signal provided at said control input.</p>
a frequency variation circuit that provides a frequency variation signal;	<p>In both embodiments:</p> <p>AN376 (p. 32) Figure 44 teaches a frequency variation circuit consisting of a npn transistor that sinks current from pin 11, along with RC drive circuit to its base terminal. The operation is</p>

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	described on p. 32. Voltage on pin 11 is the frequency variation signal.
<p>an oscillator that provides an oscillation signal having a frequency range, said frequency of said oscillation signal varying within said frequency range according to said frequency variation signal, said oscillator further providing a maximum duty cycle signal comprising a first state and a second state; and</p>	<p>In both embodiments:</p> <p>TEA2260/61 datasheet p. 3, Block Diagram: The TEA2260 switch includes an oscillator, which provides a maximum duty cycle signal, i.e., a pulse signal, comprising an on-state and an off-state. This oscillator provides an oscillation signal that varies with respect to the voltage on pin 11.</p> <p>AN376 p. 12, Figure 14: "An auxiliary PWM generates a maximum duty cycle conduction signal (β), by comparing the sawtooth with an internal fixed voltage." The sawtooth is generated by the oscillator and its frequency varies with respect to the voltage on pin 11.</p>
<p>a drive circuit that provides said drive signal when said maximum duty cycle signal is in said first state and said regulation circuit is not disabled.</p>	<p>In both embodiments, when the regulation circuit is not disabled:</p> <p>TEA2260/61 datasheet p. 3, Block Diagram: The TEA2260 includes a drive circuit, which provides the drive signal according to the maximum duty cycle signal. Furthermore, one of the modulators compares the oscillator sawtooth to the variable threshold level, error amplifier output (S), in order to set the duty cycle of the drive signal.</p> <p>AN376 p. 12 and 13, Figure 15: "A logic 'AND' between signals (α) and (β) provides the primary regulator output signal T_A." T_A feeds the drive circuit that creates the drive signal. Figure 14 on p. 12 shows that the rising edge of α varies with ϵ. This rising edge determines the duty cycle of the drive signal.</p>
<p>13. The regulation circuit of claim 11 further comprising a soft start circuit that provides a signal instructing said drive circuit to discontinue said drive signal according to a magnitude of said frequency variation signal.</p>	<p>It is inherent or would be obvious that the frequency variation signal could also be used as a soft start signal.</p> <p>This is validated by the fact that a subsequent device in the series, TEA2262, incorporates the frequency variation circuit into the device.</p>
<p>16. The regulation circuit of claim 11 wherein said first terminal, said second terminal, said switch, said frequency variation circuit, and said drive circuit comprise a monolithic device.</p>	<p>It is inherent or would be obvious to combine all of the regulation circuitry with frequency variation circuitry into a single monolithic device, consistent with trends in the semiconductor industry.</p>
<p>17. The regulation circuit of claim 11</p>	<p>In the second embodiment:</p>

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further comprising;	The TEA2260 meets every element of claim 1, as set forth above.
a rectifier comprising a rectifier input and a rectifier output, said rectifier input receiving an AC mains signal and said rectifier output providing a rectified signal;	TEA2260/61 datasheet p. 2, Figure 2: The TEA2260 discloses a rectifier comprising an input and an output with the input receiving an AC mains signal and the output providing a rectified signal.
a power supply capacitor that receives said rectified signal and provides a substantially DC signal;	TEA2260/61 datasheet p. 2, Figure 2: The TEA2260 discloses a power supply capacitor that receives the rectified signal from the rectifier and provides a substantially DC signal.
a first winding comprising a first terminal and a second terminal, said first winding receiving said substantially DC signal, said second terminal of said first winding coupled to said first terminal of said switch; and	TEA2260/61 datasheet p. 2, Figure 2: The TEA2260 discloses a first winding having a first terminal and a second terminal. The first winding receives the substantially DC signal with the second terminal of the first winding coupled to the first terminal of the pulse modulated switch.
a second winding magnetically coupled to said first winding.	TEA2260/61 datasheet p. 2, Figure 2: The TEA2260 discloses a second winding magnetically coupled to the first winding.

'851 Patent Anticipated or Rendered Obvious byby "A 5A 100 KHz Monolithic Bipolar DC/DC Converter," by de Stasi and Szepesi, *The European Power Electronics Association*, 1993 (pp. 201-208) ("Stasi") and the related National Semiconductor LM2588 ("LM2588") datasheet

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1. A pulse width modulated switch comprising:	Stasi discloses a pulse width modulated switch.
a first terminal;	As shown in Figure 1, there is a first terminal, Switch. "The new IC is a seven pin switching regulator with an open collector output switch. Fig. 1 shows the block diagram." Stasi, p. 201.
a second terminal;	As shown in Figure 1, there is a first terminal, Ground. "The new IC is a seven pin switching regulator with an open collector output switch. Fig. 1 shows the block diagram." Stasi, p. 201.
a switch comprising a control input, said switch allowing a signal to be transmitted between said first terminal and said second terminal according to a drive signal provided at said control input;	As shown in Figure 1, there is a switch comprising a control input, the switch allowing a signal to be transmitted between the first terminal and the second terminal according to a drive signal provided at the control input. "The new IC is a seven pin switching regulator with an open collector output switch. Fig. 1 shows the block diagram. The NPN power transistor can stand-off 70V and pass 5A peak currents" Stasi, p. 201.
a frequency variation circuit that provides a frequency variation signal;	Stasi describes a frequency variation circuit that provides a frequency variation signal. "The on/off pin of the IC has a dual role; it can be used to shutdown the chip or to adjust the switching frequency. Pulling the on/off control high, puts the part in a shutdown mode where it draws only 50µA from the input supply. With the on/off control low, the part functions normally. If it is desired to increase the switching frequency, a resistor is connected from the on/off pin of the IC to ground." Stasi, p. 201. "To aid this situation, we simply reduce the switching frequency whenever the short-circuit condition is sensed.... As a result, the converter will operate in current limit at a much reduced switching frequency whenever the output is shorted...." Stasi, p. 202. "In this regulator we monitor the voltage on the feedback pin, to detect the short-circuit condition. If this voltage drops below 0.6v (from the nominal 1.23v) the switching frequency is dropped to about 20 khz." Stasi, p. 202.
an oscillator that provides an oscillation signal having a frequency range, said frequency of said oscillation signal varying within said frequency range according to	As shown in Figure 1, there is an oscillator that provides an oscillation signal having a frequency range, the frequency of the oscillation signal varying within the frequency range according to the frequency variation signal, the oscillator further

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said frequency variation signal, said oscillator further providing a maximum duty cycle signal comprising a first state and a second state; and	providing a maximum duty cycle signal comprising a first state and a second state. "The trimmed 100 Khz oscillator requires no external components." Stasi, p. 201. "To aid this situation, we simply reduce the switching frequency whenever the short-circuit condition is sensed.... As a result, the converter will operate in current limit at a much reduced switching frequency whenever the output is shorted...." Stasi, p. 202. "In this regulator we monitor the voltage on the feedback pin, to detect the short-circuit condition. If this voltage drops below 0.6v (from the nominal 1.23v) the switching frequency is dropped to about 20 khz." Stasi, p. 202
a drive circuit that provides said drive signal when said maximum duty cycle signal is in said first state and a magnitude of said oscillation signal is below a variable threshold level.	As shown in Figure 1, there is a drive circuit that provides the drive signal when the maximum duty cycle signal is in the first state and a magnitude of the oscillation signal is below a variable threshold level.
2. The pulse width modulated switch of claim 1 wherein said first terminal, said second terminal, said switch, said oscillator, said frequency variation circuit and said drive circuit comprise a monolithic device.	As shown in Figure 1, the first terminal, second terminal, switch, oscillator, frequency variation circuit, and drive circuit comprise a monolithic device. "This paper describes a new monolithic boost/flyback switching regulator that is designed for ease of use in general purpose applications." Stasi, p. 201.
4. The pulse width modulated switch of claim 1 further comprising a soft start circuit that provides a signal instructing said drive circuit to discontinue said drive signal when said magnitude of said oscillation signal is greater than a magnitude of said frequency variation signal.	As shown in Figures 1, 4, and 5a, there is a soft start circuit that provides a signal instructing the drive circuit to discontinue the drive signal when the magnitude of the oscillation signal is greater than a magnitude of the frequency variation signal. "A soft- start feature can take over control of the loop and gradually increase the duty cycle from some small value to it's [sic] operating value." Stasi, p. 202.
7. The pulse width modulated switch of claim 1 wherein said frequency of said oscillation signal varies within said frequency range with a magnitude of said frequency variation signal.	Stasi describes a pulse width modulated switch wherein the frequency of the oscillation signal varies within the frequency range with a magnitude of the frequency variation signal. "The on/off pin of the IC has a dual role; it can be used to shutdown the chip or to adjust the switching frequency. Pulling the on/off control high, puts the part in a shutdown mode where it draws only 50µA from the input supply. With the on/off control low, the part functions normally. If it is desired to increase the switching frequency, a resistor is connected from the on/off pin of the IC to ground." Stasi, p. 201. "To aid this situation, we simply reduce the switching frequency whenever the short-circuit condition is

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	sensed.... As a result, the converter will operate in current limit at a much reduced switching frequency whenever the output is shorted....” Stasi, p. 202. “In this regulator we monitor the voltage on the feedback pin, to detect the short-circuit condition. If this voltage drops below 0.6v (from the nominal 1.23v) the switching frequency is dropped to about 20 khz.” Stasi, p. 202.
9. The pulse width modulated switch of claim 1 further comprising;	
a rectifier comprising a rectifier input and a rectifier output, said rectifier input receiving an AC mains signal and said rectifier output providing a rectified signal;	It is inherent or would be obvious that the described pulse width modulated switch could be used in a flyback application circuit, which would include a rectifier input and a rectifier output, the rectifier input receiving an AC mains signal and the rectifier output providing a rectified signal. “This paper describes a new monolithic boost/flyback switching regulator that is designed for ease of use in general purpose applications.” Stasi, p. 201.
a power supply capacitor that receives said rectified signal and provides a substantially DC signal;	As shown in Figures 2 and 3, there is a power supply capacitor that receives the rectified signal.
a first winding comprising a first terminal and a second terminal, said first winding receiving said substantially DC signal, said second terminal of said first winding coupled to said first terminal of said switch; and	As shown in Figures 2 and 3, there is a first winding comprising a first terminal and a second terminal, the first winding receiving a substantially DC signal from the power supply capacitor, the second terminal of the first winding coupled to the first terminal of the pulse width modulated switch
a second winding magnetically coupled to said first winding.	It is inherent or would be obvious that the described pulse width modulated switch could be used in a flyback application circuit, which would include a second winding magnetically coupled to the first winding, the first winding capable of being coupled to a load. “This paper describes a new monolithic boost/flyback switching regulator that is designed for ease of use in general purpose applications.” Stasi, p. 201.
10. The pulse width modulated switch of claim 1 wherein said variable threshold level is a function of a feedback signal received at a feedback terminal of said pulse width modulated switch.	As shown in Figure 1, the variable threshold level is a function of a feedback signal received at a feedback terminal of the pulse width modulated switch.
11. A regulation circuit comprising:	Stasi discloses a regulation circuit.
a first terminal;	As shown in Figure 1, there is a first terminal, Switch. “The new IC is a seven pin switching

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	regulator with an open collector output switch. Fig. 1 shows the block diagram.” Stasi, p. 201.
a second terminal;	As shown in Figure 1, there is a first terminal, Ground. “The new IC is a seven pin switching regulator with an open collector output switch. Fig. 1 shows the block diagram.” Stasi, p. 201.
a feedback terminal coupled to disable the regulation circuit;	As shown in Figure 3, the ON/OFF pin “can be used to shutdown the chip.” Stasi, p. 201.
a switch comprising a control input, said switch allowing a signal to be transmitted between said first terminal and said second terminal according to a drive signal provided at said control input;	As shown in Figure 1, there is a switch comprising a control input, the switch allowing a signal to be transmitted between the first terminal and the second terminal according to a drive signal provided at the control input. “The new IC is a seven pin switching regulator with an open collector output switch. Fig. 1 shows the block diagram. The NPN power transistor can stand-off 70V and pass 5A peak currents” Stasi, p. 201.
a frequency variation circuit that provides a frequency variation signal;	Stasi describes a frequency variation circuit that provides a frequency variation signal. “The on/off pin of the IC has a dual role; it can be used to shutdown the chip or to adjust the switching frequency. Pulling the on/off control high, puts the part in a shutdown mode where it draws only 50μA from the input supply. With the on/off control low, the part functions normally. If it is desired to increase the switching frequency, a resistor is connected from the on/off pin of the IC to ground.” Stasi, p. 201. “To aid this situation, we simply reduce the switching frequency whenever the short-circuit condition is sensed.... As a result, the converter will operate in current limit at a much reduced switching frequency whenever the output is shorted....” Stasi, p. 202. “In this regulator we monitor the voltage on the feedback pin, to detect the short-circuit condition. If this voltage drops below 0.6v (from the nominal 1.23v) the switching frequency is dropped to about 20 khz.” Stasi, p. 202.
an oscillator that provides an oscillation signal having a frequency range, said frequency of said oscillation signal varying within said frequency range according to said frequency variation signal, said oscillator further providing a maximum duty cycle signal comprising a first state and a second state; and	As shown in Figure 1, there is an oscillator that provides an oscillation signal having a frequency range, the frequency of the oscillation signal varying within the frequency range according to the frequency variation signal, the oscillator further providing a maximum duty cycle signal comprising a first state and a second state. “The trimmed 100 Khz oscillator requires no external components.” Stasi, p. 201. “To aid this situation, we simply reduce the switching frequency whenever the short-circuit condition is sensed.... As a result, the converter will operate in current limit at a much

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	reduced switching frequency whenever the output is shorted....” Stasi, p. 202. “In this regulator we monitor the voltage on the feedback pin, to detect the short-circuit condition. If this voltage drops below 0.6v (from the nominal 1.23v) the switching frequency is dropped to about 20 khz.” Stasi, p. 202
a drive circuit that provides said drive signal when said maximum duty cycle signal is in said first state and said regulation circuit is not disabled.	As shown in Figure 1, there is a drive circuit that provides the drive signal when the maximum duty cycle signal is in the first state and a magnitude of the oscillation signal is below a variable threshold level.
13. The regulation circuit of claim 11 further comprising a soft start circuit that provides a signal instructing said drive circuit to discontinue said drive signal according to a magnitude of said frequency variation signal.	As shown in Figures 1, 4, and 5a, there is a soft start circuit that provides a signal instructing the drive circuit to discontinue the drive signal when the magnitude of the oscillation signal is greater than a magnitude of the frequency variation signal. “A soft- start feature can take over control of the loop and gradually increase the duty cycle from some small value to it’s [sic] operating value.” Stasi, p. 202.
16. The regulation circuit of claim 11 wherein said first terminal, said second terminal, said switch, said frequency variation circuit, and said drive circuit comprise a monolithic device.	As shown in Figure 1, the first terminal, second terminal, switch, oscillator, frequency variation circuit, and drive circuit comprise a monolithic device. “This paper describes a new monolithic boost/flyback switching regulator that is designed for ease of use in general purpose applications.” Stasi, p. 201.
17. The regulation circuit of claim 11 further comprising;	
a rectifier comprising a rectifier input and a rectifier output, said rectifier input receiving an AC mains signal and said rectifier output providing a rectified signal;	It is inherent or would be obvious that the described pulse width modulated switch could be used in a flyback application circuit, which would include a rectifier input and a rectifier output, the rectifier input receiving an AC mains signal and the rectifier output providing a rectifier signal. “This paper describes a new monolithic boost/flyback switching regulator that is designed for ease of use in general purpose applications.” Stasi, p. 201.
a power supply capacitor that receives said rectified signal and provides a substantially DC signal;	As shown in Figures 2 and 3, there is a power supply capacitor that receives the rectified signal.
a first winding comprising a first terminal and a second terminal, said first winding receiving said substantially DC signal, said second terminal of said first winding	As shown in Figures 2 and 3, there is a first winding comprising a first terminal and a second terminal, the first winding receiving a substantially DC signal from the power supply capacitor, the second terminal of the first winding coupled to the first

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coupled to said first terminal of said switch; and	terminal of the pulse width modulated switch
a second winding magnetically coupled to said first winding.	It is inherent or would be obvious that the described pulse width modulated switch could be used in a flyback application circuit, which would include a second winding magnetically coupled to the first winding, the first winding capable of being coupled to a load. "This paper describes a new monolithic boost/flyback switching regulator that is designed for ease of use in general purpose applications." Stasi, p. 201.

'851 Patent Anticipated or Rendered Obvious by U.S. Patent No. 5,498,995 and related documents National Semiconductor Application Note AN-918 and LM3001, LM3101 datasheets

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1. A pulse width modulated switch comprising:	U.S. Patent No. 5,498,995 (the "'995 Patent") describes a pulse width modulated switch. "The present invention relates to isolated offline switching power supplies, and, more particularly, to a controller for use with such power supplies which provides short-circuit protection." '995 Patent, 1:11-14. "A secondary controller 22 and a primary driver 24 form a 1MHz off-line Pulse Width Modulation (PWM) controller chip set with pulse communication for voltage-current-and charge-mode control." '995 Patent, 3:44-47.
a first terminal;	As shown in Figures 1 and 2, there is a first terminal coupled to one end of the transformer.
a second terminal;	As shown in Figures 1 and 2, there is a second terminal, such as ground.
a switch comprising a control input, said switch allowing a signal to be transmitted between said first terminal and said second terminal according to a drive signal provided at said control input;	As shown in Figure 2, there is a switch with a control input, the switch allowing a signal to be transmitted between the first terminal and the second terminal according to a drive signal provided at the control input. "The switching power supply is of the type having a transformer having primary and secondary windings for generating an output voltage at the secondary winding, a power switch for driving the primary winding, and controller circuitry for activating the power switch." '995 Patent, Abstract. "Powered initially with current (e.g. 200 μ A) from V_{in} via a dropping resistor (not shown), its own oscillator and PWM generator driver the supply's MOSFET power switch 26, which drive the primary winding of transformer TR1." '995 Patent, 4:1-5.
a frequency variation circuit that provides a frequency variation signal;	As shown in Figures 5 and 6, there is a frequency variation circuit that provides a frequency variation signal. "The oscillator generates PWM pulses having a predetermined frequency for use in activating the power switch. The frequency shift means gradually shifts the frequency of the PWM pulses at a shift rate in response to the output voltage decreasing to below a threshold level." '995 Patent, Abstract. "Frequency shift means is used gradually shifting the frequency of the PWM pulses at a shift rate in response to an output voltage of the switching power supply decreasing to below a threshold level, and programming means is used for programming the shift rate and the threshold level." '995 Patent, 2:58-62. "The frequency shift circuitry 204 reduces the frequency of the oscillator 202 in a smooth,

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<p>an oscillator that provides an oscillation signal having a frequency range, said frequency of said oscillation signal varying within said frequency range according to said frequency variation signal, said oscillator further providing a maximum duty cycle signal comprising a first state and a second state; and</p>	<p>continuous, quasi-linear fashion as the output approaches short circuit.” ‘995 Patent, 7:23-25; <i>see also</i> ‘995 Patent, 7:11-10:6.</p> <p>As shown in Figures 1, 3, and 6, there is an oscillator that provides an oscillation signal having a frequency range, the frequency of the oscillation signal varying within said frequency range according to the frequency variation signal, the oscillator further providing a maximum duty cycle signal comprising a first state and a second state. “FIG. 6 illustrates the oscillator circuit 200. The oscillator circuit 200 includes an oscillator 202 and frequency shift circuitry 204. The oscillator 202 output V_{OSC} provides the ramp signal and time base for the PWM pulses that are sent back to the primary driver 24 via the transformer TR2. The purpose of the frequency shift circuitry 204 is to reduce, or ‘shift’ the frequency of the oscillator output V_{OSC} when the output V_{OSC} is short-circuited or approaching near short-circuit conditions. The reduction to the frequency of the oscillator output V_{OSC} ultimately results in a reduction in the frequency that the transistor 26 is switched on and off, and, consequently, a reduction in the energy that is transferred through the transformer TR1.” ‘995 Patent, 7:10-22; <i>see also</i> ‘995 Patent, 7:11-10:6.</p>
<p>a drive circuit that provides said drive signal when said maximum duty cycle signal is in said first state and a magnitude of said oscillation signal is below a variable threshold level.</p>	<p>As shown in Figures 1, 3, and 5, there is a drive circuit that provides the drive signal when the maximum duty cycle signal is in the first state and a magnitude of said oscillation signal is below a variable threshold level. “When input power (V_{in}) is applied to the primary-side controller/driver 24 it acts like a conventional controller at startup and gets the circuit running. Powered initially with current (e.g. 200 μA) from V_{in} via a dropping resistor (not shown), its own oscillator and PWM generator driver the supply’s MOSFET power switch 26, which drive the primary winding of transformer TR1.” ‘995 Patent, 3:66-4:5. “The secondary-side controller 22 effectively takes control of the supply and primary-side driver 24 becomes its slave. The slave’s driver output 25 turns the power FET 26 on and off, only in response to PWM pulses from the secondary-side controller 22.” ‘995 Patent, 4:17-21; <i>see also</i> ‘995 Patent, 4:21-5:17.</p>
<p>2. The pulse width modulated switch of claim 1 wherein said first terminal, said second terminal, said switch, said oscillator, said frequency variation circuit</p>	<p>It is inherent or would have been obvious that the first terminal, second terminal, switch, frequency variation circuit, and drive circuit comprise a monolithic device.</p>

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and said drive circuit comprise a monolithic device.	
<p>4. The pulse width modulated switch of claim 1 further comprising</p> <p>a soft start circuit that provides a signal instructing said drive circuit to discontinue said drive signal when said magnitude of said oscillation signal is greater than a magnitude of said frequency variation signal.</p>	<p>As shown in Figures 2, 3, and 5, there is a soft start circuit that provides a signal instructing the drive circuit to discontinue the drive signal when the magnitude of the oscillation signal is greater than a magnitude of the frequency variation signal. "Like most controllers primary-side driver 24 sets the slew rate during startup with a start-up capacitor." '995 Patent, 5:36-37; <i>see also</i> '995 Patent, 6:41-53 and 11:33-46.</p>
<p>7. The pulse width modulated switch of claim 1 wherein said frequency of said oscillation signal varies within said frequency range with a magnitude of said frequency variation signal.</p>	<p>The frequency of the oscillation signal varies within the frequency range with a magnitude of the frequency variation signal. "FIG. 6 illustrates the oscillator circuit 200. The oscillator circuit 200 includes an oscillator 202 and frequency shift circuitry 204. The oscillator 202 output V_{OSC} provides the ramp signal and time base for the PWM pulses that are sent back to the primary driver 24 via the transformer TR2. The purpose of the frequency shift circuitry 204 is to reduce, or 'shift' the frequency of the oscillator output V_{OSC} when the output V_{OSC} is short-circuited or approaching near short-circuit conditions. The reduction to the frequency of the oscillator output V_{OSC} ultimately results in a reduction in the frequency that the transistor 26 is switched on and off, and, consequently, a reduction in the energy that is transferred through the transformer TR1." '995 Patent, 7:10-22; <i>see also</i> '995 Patent, 7:11-10:6. "Frequency shift means is used gradually shifting the frequency of the PWM pulses at a shift rate in response to an output voltage of the switching power supply decreasing to below a threshold level, and programming means is used for programming the shift rate and the threshold level." '995 Patent, 2:58-62. "The frequency shift circuitry 204 reduces the frequency of the oscillator 202 in a smooth, continuous, quasi-linear fashion as the output approaches short circuit." '995 Patent, 7:23-25; <i>see also</i> '995 Patent, 7:11-10:6.</p>
<p>9. The pulse width modulated switch of claim 1 further comprising;</p>	
<p>a rectifier comprising a rectifier input and a rectifier output, said rectifier input receiving an AC mains signal and said rectifier output providing a rectified signal;</p>	<p>It is inherent or would have been obvious that a rectifier comprising a rectifier input and a rectifier output, the rectifier input receiving an AC mains signal and the rectifier output providing a rectified</p>

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	signal is used to generate DC Vin shown in Figure 2.
a power supply capacitor that receives said rectified signal and provides a substantially DC signal;	As shown in Figure 2, there is a power supply capacitor that receives said rectified signal and provides a substantially DC signal.
a first winding comprising a first terminal and a second terminal, said first winding receiving said substantially DC signal, said second terminal of said first winding coupled to said first terminal of said switch; and	As shown in Figure 2, there is a first winding comprising a first terminal and a second terminal, the first winding receiving the substantially DC signal, the second terminal of the first winding coupled to said first terminal of said switch
a second winding magnetically coupled to said first winding.	As shown in Figure 2, there is a second winding magnetically coupled to said first winding.
10. The pulse width modulated switch of claim 1 wherein said variable threshold level is a function of a feedback signal received at a feedback terminal of said pulse width modulated switch.	As shown in Figures 2 and 5, the variable threshold level is a function of a feedback signal received at a feedback terminal, FB, of the pulse width modulated switch.
11. A regulation circuit comprising:	U.S. Patent No. 5,498,995 (the “995 Patent”) describes a regulation circuit. “The present invention relates to isolated offline switching power supplies, and, more particularly, to a controller for use with such power supplies which provides short-circuit protection.” ‘995 Patent, 1:11-14. “A secondary controller 22 and a primary driver 24 form a 1MHz off-line Pulse Width Modulation (PWM) controller chip set with pulse communication for voltage-current-and charge-mode control.” ‘995 Patent, 3:44-47.
a first terminal;	As shown in Figures 1 and 2, there is a first terminal, such as Vin.
a second terminal;	As shown in Figures 1 and 2, there is a second terminal, such as ground.
a feedback terminal coupled to disable the regulation circuit;	As shown in Figures 2 and 5, there is a feedback terminal coupled to disable the regulation circuit.
a switch comprising a control input, said switch allowing a signal to be transmitted between said first terminal and said second terminal according to a drive signal provided at said control input;	As shown in Figure 2, there is a switch with a control input, the switch allowing a signal to be transmitted between the first terminal and the second terminal according to a drive signal provided at the control input. “The switching power supply is of the type having a transformer having primary and secondary windings for generating an output voltage at the secondary winding, a power switch for driving the primary winding, and controller circuitry for activating the power switch.” ‘995 Patent, Abstract.

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	<p>“Powered initially with current (e.g. 200 μA) from Vin via a dropping resistor (not shown), its own oscillator and PWM generator driver the supply’s MOSFET power switch 26, which drive the primary winding of transformer TR1.” ‘995 Patent, 4:1-5.</p>
<p>a frequency variation circuit that provides a frequency variation signal;</p>	<p>As shown in Figure 6, there is a frequency variation circuit that provides a frequency variation signal. “The oscillator generates PWM pulses having a predetermined frequency for use in activating the power switch. The frequency shift means gradually shifts the frequency of the PWM pulses at a shift rate in response to the output voltage decreasing to below a threshold level.” ‘995 Patent, Abstract. “Frequency shift means is used gradually shifting the frequency of the PWM pulses at a shift rate in response to an output voltage of the switching power supply decreasing to below a threshold level, and programming means is used for programming the shift rate and the threshold level.” ‘995 Patent, 2:58-62. “The frequency shift circuitry 204 reduces the frequency of the oscillator 202 in a smooth, continuous, quasi-linear fashion as the output approaches short circuit.” ‘995 Patent, 7:23-25; <i>see also</i> ‘995 Patent, 7:11-10:6.</p>
<p>an oscillator that provides an oscillation signal having a frequency range, said frequency of said oscillation signal varying within said frequency range according to said frequency variation signal, said oscillator further providing a maximum duty cycle signal comprising a first state and a second state; and</p>	<p>As shown in Figures 1, 3, and 6, there is an oscillator that provides an oscillation signal having a frequency range, the frequency of the oscillation signal varying within said frequency range according to the frequency variation signal, the oscillator further providing a maximum duty cycle signal comprising a first state and a second state. “FIG. 6 illustrates the oscillator circuit 200. The oscillator circuit 200 includes an oscillator 202 and frequency shift circuitry 204. The oscillator 202 output V_{OSC} provides the ramp signal and time base for the PWM pulses that are sent back to the primary driver 24 via the transformer TR2. The purpose of the frequency shift circuitry 204 is to reduce, or ‘shift’ the frequency of the oscillator output V_{OSC} when the output V_{OSC} is short-circuited or approaching near short-circuit conditions. The reduction to the frequency of the oscillator output V_{OSC} ultimately results in a reduction in the frequency that the transistor 26 is switched on and off, and, consequently, a reduction in the energy that is transferred through the transformer TR1.” ‘995 Patent, 7:10-22; <i>see also</i> ‘995 Patent, 7:11-10:6.</p>
<p>a drive circuit that provides said drive signal when said maximum duty cycle signal is in said first state and said</p>	<p>As shown in Figures 1, 3, and 5, there is a drive circuit that provides the drive signal when the maximum duty cycle signal is in said first state and</p>

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regulation circuit is not disabled.	the regulation circuit is not disabled. "When input power (Vin) is applied to the primary-side controller/driver 24 it acts like a conventional controller at startup and gets the circuit running. Powered initially with current (e.g. 200 μ A) from Vin via a dropping resistor (not shown), its own oscillator and PWM generator driver the supply's MOSFET power switch 26, which drive the primary winding of transformer TR1." '995 Patent, 3:66-4:5. "The secondary-side controller 22 effectively takes control of the supply and primary-side driver 24 becomes its slave. The slave's driver output 25 turns the power FET 26 on and off, only in response to PWM pulses from the secondary-side controller 22." '995 Patent, 4:17-21; <i>see also</i> '995 Patent, 4:21-5:17.
13. The regulation circuit of claim 11 further comprising a soft start circuit that provides a signal instructing said drive circuit to discontinue said drive signal according to a magnitude of said frequency variation signal.	As shown in Figures 2, 3, and 5, there is a soft start circuit that provides a signal instructing the drive circuit to discontinue the drive signal according to the magnitude of the frequency variation signal. "Like most controllers primary-side driver 24 sets the slew rate during startup with a start-up capacitor." '995 Patent, 5:36-37; <i>see also</i> '995 Patent, 6:41-53 and 11:33-46.
16. The regulation circuit of claim 11 wherein said first terminal, said second terminal, said switch, said frequency variation circuit, and said drive circuit comprise a monolithic device.	It is inherent or would have been obvious that the first terminal, second terminal, switch, frequency variation circuit, and drive circuit comprise a monolithic device.
17. The regulation circuit of claim 11 further comprising;	
a rectifier comprising a rectifier input and a rectifier output, said rectifier input receiving an AC mains signal and said rectifier output providing a rectified signal;	It is inherent or would have been obvious that a rectifier comprising a rectifier input and a rectifier output, the rectifier input receiving an AC mains signal and the rectifier output providing a rectified signal is used to generate DC Vin shown in Figure 2.
a power supply capacitor that receives said rectified signal and provides a substantially DC signal;	As shown in Figure 2, there is a power supply capacitor that receives said rectified signal and provides a substantially DC signal.
a first winding comprising a first terminal and a second terminal, said first winding receiving said substantially DC signal, said second terminal of said first winding coupled to said first terminal of said switch; and	As shown in Figure 2, there is a first winding comprising a first terminal and a second terminal, the first winding receiving the substantially DC signal, the second terminal of the first winding coupled to said first terminal of said switch

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a second winding magnetically coupled to said first winding.	As shown in Figure 2, there is a second winding magnetically coupled to said first winding.

'851 Patent Anticipated or Rendered Obvious by SGS-Thomson TEA2262 ("TEA2262")

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1. A pulse width modulated switch comprising:	TEA2262 datasheet p. 1: The TEA2262 is a switch mode power supply controller using a PWM generator. Two embodiments of the TEA2262 anticipate the claims of the '366 patent.
a first terminal;	<p>In the first embodiment:</p> <p>TEA2262 datasheet p. 2, Block Diagram: The TEA2262 switch has a first terminal, V+, shown as pin 15.</p> <p>In the second embodiment:</p> <p>TEA2262 datasheet p. 5, Figure 2: The first terminal is the terminal of the external transistor connected to one terminal of the primary winding of the transformer.</p>
a second terminal;	<p>In the first embodiment:</p> <p>TEA2262 datasheet p. 2, Block Diagram: The TEA2262 switch has a second terminal, OUT, shown as pin 14.</p> <p>In the second embodiment:</p> <p>TEA2262 datasheet p. 5, Figure 2: The second terminal is the terminal of the external transistor connected to ground through a sense resistor.</p>
a switch comprising a control input, said switch allowing a signal to be transmitted between said first terminal and said second terminal according to a drive signal provided at said control input;	<p>In the first embodiment:</p> <p>TEA2262 datasheet p. 2, Block Diagram: The TEA2262 switch includes a switch, i.e., a gate drive transistor switch, which has a control input (from a positive output stage). The gate drive transistor switch allows a signal to be transmitted between the first terminal, V+, and the second terminal, OUT, according to a drive signal provided at the control input from the positive output stage.</p> <p>In the second embodiment:</p> <p>TEA2262 datasheet p. 5, Figure 2: The TEA2262 is connected to a switch comprising a control input, the switch allowing a signal to be transmitted between the first terminal and the second terminal according to a drive signal provided at said control input.</p>
a frequency variation circuit that provides a frequency variation signal;	<p>In both embodiments:</p> <p>TEA2262 datasheet p. 5, Figure 2: The soft-start circuit and capacitor on pin 9 (C1) is a frequency</p>

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	variation circuit that provides a frequency variation signal to the oscillator.
an oscillator that provides an oscillation signal having a frequency range, said frequency of said oscillation signal varying within said frequency range according to said frequency variation signal, said oscillator further providing a maximum duty cycle signal comprising a first state and a second state; and	In both embodiments: TEA2262 datasheet p. 2, Block Diagram: The TEA2262 switch includes an oscillator, which provides a maximum duty cycle signal, i.e., a pulse signal, comprising an on-state and an off-state. This oscillator provides an oscillation signal that varies with respect to the voltage on pin 9, the frequency variation signal.
a drive circuit that provides said drive signal when said maximum duty cycle signal is in said first state and a magnitude of said oscillation signal is below a variable threshold level.	In both embodiments: TEA2262 datasheet p. 2, Block Diagram: The TEA2262 includes a drive circuit, which provides the drive signal according to the maximum duty cycle signal. Furthermore, one of the modulators compares the oscillator sawtooth to the variable threshold level, error amplifier output (S), in order to set the duty cycle of the drive signal.
2. The pulse width modulated switch of claim 1 wherein said first terminal, said second terminal, said switch, said oscillator, said frequency variation circuit and said drive circuit comprise a monolithic device.	In the second embodiment, the pulse width modulated switch of claim 1 is a monolithic device.
4. The pulse width modulated switch of claim 1 further comprising a soft start circuit that provides a signal instructing said drive circuit to discontinue said drive signal when said magnitude of said oscillation signal is greater than a magnitude of said frequency variation signal.	TEA2262 datasheet p. 5, Figure 2: The frequency variation signal is also used as the soft-start signal. By comparing the soft-start (or frequency variation) signal with respect to the sawtooth out of the oscillator, the drive signal's duty cycle is adjusted with respect to the frequency variation signal.
7. The pulse width modulated switch of claim 1 wherein said frequency of said oscillation signal varies within said frequency range with a magnitude of said frequency variation signal.	The oscillation frequency of the oscillator can reduce by 1/4th, with respect to the magnitude of the voltage on pin 9.
9. The pulse width modulated switch of claim 1 further comprising;	In the second embodiment: The TEA2262 meets every element of claim 1, as set

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	forth above.
a rectifier comprising a rectifier input and a rectifier output, said rectifier input receiving an AC mains signal and said rectifier output providing a rectified signal;	TEA2262 datasheet p. 5, Figure 2: The TEA2262 discloses a rectifier comprising an input and an output with the input receiving an AC mains signal and the output providing a rectified signal.
a power supply capacitor that receives said rectified signal and provides a substantially DC signal;	TEA2262 datasheet p. 5, Figure 2: The TEA2262 discloses a power supply capacitor that receives the rectified signal from the rectifier and provides a substantially DC signal.
a first winding comprising a first terminal and a second terminal, said first winding receiving said substantially DC signal, said second terminal of said first winding coupled to said first terminal of said switch; and	TEA2262 datasheet p. 5, Figure 2: The TEA2262 discloses a first winding having a first terminal and a second terminal. The first winding receives the substantially DC signal with the second terminal of the first winding coupled to the first terminal of the pulse modulated switch.
a second winding magnetically coupled to said first winding.	TEA2262 datasheet p. 5, Figure 2: The TEA2262 discloses a second winding magnetically coupled to the first winding.
10. The pulse width modulated switch of claim 1 wherein said variable threshold level is a function of a feedback signal received at a feedback terminal of said pulse width modulated switch.	TEA2262 datasheet Figure 2 and Block Diagram pp. 5 and 2: Figure 2 shows a feedback signal from the opto-coupler to the TEA2262 device. The block diagram shows that the feedback signal, which connects to the input of the error amplifier, sets the variable threshold input to the modulator.
11. A regulation circuit comprising:	TEA2262 datasheet pp. 2 and 5: The TEA2262 is a switch mode power supply controller. Two embodiments of the TEA2262 anticipate the claims of the '366 patent.
a first terminal;	In the first embodiment: TEA2262 datasheet p. 2, Block Diagram: The TEA2262 switch has a first terminal, V+, shown as pin 15. In the second embodiment: TEA2262 datasheet p. 5, Figure 2: The first terminal is the terminal of the external transistor connected to one terminal of the primary winding of the transformer.
a second terminal;	In the first embodiment: TEA2262 datasheet p. 2, Block Diagram: The TEA2262 switch has a second terminal, OUT,

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	<p>shown as pin 14.</p> <p>In the second embodiment:</p> <p>TEA2262 datasheet p. 5, Figure 2: The second terminal is the terminal of the external transistor connected to ground through a sense resistor.</p>
a feedback terminal coupled to disable the regulation circuit;	<p>TEA2262 datasheet p. 2, Block Diagram shows several terminals (C2, IS, I_{MAX}) that can disable the regulation circuit.</p>
a switch comprising a control input, said switch allowing a signal to be transmitted between said first terminal and said second terminal according to a drive signal provided at said control input;	<p>In the first embodiment:</p> <p>TEA2262 datasheet p. 2, Block Diagram: The TEA2262 switch includes a switch, i.e., a gate drive transistor switch, which has a control input (from a positive output stage). The gate drive transistor switch allows a signal to be transmitted between the first terminal, V+, and the second terminal, OUT, according to a drive signal provided at the control input from the positive output stage.</p> <p>In the second embodiment:</p> <p>TEA2262 datasheet p. 5, Figure 2: The TEA2262 is connected to a switch comprising a control input, the switch allowing a signal to be transmitted between the first terminal and the second terminal according to a drive signal provided at said control input.</p>
a frequency variation circuit that provides a frequency variation signal;	<p>In both embodiments:</p> <p>TEA2262 datasheet p. 5, Figure 2: The soft-start circuit and capacitor on pin 9 (C1) is a frequency variation circuit that provides a frequency variation signal to the oscillator.</p>
an oscillator that provides an oscillation signal having a frequency range, said frequency of said oscillation signal varying within said frequency range according to said frequency variation signal, said oscillator further providing a maximum duty cycle signal comprising a first state and a second state; and	<p>In both embodiments:</p> <p>TEA2262 datasheet p. 2, Block Diagram: The TEA2262 switch includes an oscillator, which provides a maximum duty cycle signal, i.e., a pulse signal, comprising an on-state and an off-state. This oscillator provides an oscillation signal that varies with respect to the voltage on pin 9.</p>
a drive circuit that provides said drive signal when said maximum duty cycle signal is in said first state and said regulation circuit is not disabled.	<p>In both embodiments, when the regulation circuit is not disabled:</p> <p>TEA2262 datasheet p. 2, Block Diagram: The TEA2262 includes a drive circuit, which provides the drive signal according to the maximum duty</p>

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	cycle signal. Furthermore, one of the modulators compares the oscillator sawtooth to the variable threshold level, error amplifier output (S), in order to set the duty cycle of the drive signal.
13. The regulation circuit of claim 11 further comprising a soft start circuit that provides a signal instructing said drive circuit to discontinue said drive signal according to a magnitude of said frequency variation signal.	The oscillation frequency of the oscillator can reduce by 1/4th, with respect to the magnitude of the voltage on pin 9.
16. The regulation circuit of claim 11 wherein said first terminal, said second terminal, said switch, said frequency variation circuit, and said drive circuit comprise a monolithic device.	In the second embodiment, the regulation circuit of claim 11 is a monolithic device.
17. The regulation circuit of claim 11 further comprising;	In the second embodiment: The TEA2262 meets every element of claim 1, as set forth above.
a rectifier comprising a rectifier input and a rectifier output, said rectifier input receiving an AC mains signal and said rectifier output providing a rectified signal;	TEA2262 datasheet p. 5, Figure 2: The TEA2262 discloses a rectifier comprising an input and an output with the input receiving an AC mains signal and the output providing a rectified signal.
a power supply capacitor that receives said rectified signal and provides a substantially DC signal;	TEA2262 datasheet p. 5, Figure 2: The TEA2262 discloses a power supply capacitor that receives the rectified signal from the rectifier and provides a substantially DC signal.
a first winding comprising a first terminal and a second terminal, said first winding receiving said substantially DC signal, said second terminal of said first winding coupled to said first terminal of said switch; and	TEA2262 datasheet p. 5, Figure 2: The TEA2262 discloses a first winding having a first terminal and a second terminal. The first winding receives the substantially DC signal with the second terminal of the first winding coupled to the first terminal of the pulse modulated switch.
a second winding magnetically coupled to said first winding.	TEA2262 datasheet p. 5, Figure 2: The TEA2262 discloses a second winding magnetically coupled to the first winding.

'851 Patent Anticipated or Rendered Obvious by TK75001

U.S. Patent No. 6,107,851	Anticipated or Rendered Obvious
1. A pulse width modulated switch comprising:	P. 3-1, 8: The Toko TK75001 databook discloses a pulse width modulated switch, TK75001, which provides power supply start-up and PWM generator functions.
a first terminal;	P. 3-1, 8: The Toko TK75001 switch has a first terminal.
a second terminal;	P. 3-1, 8: The Toko TK75001 switch has a second terminal.
a switch comprising a control input, said switch allowing a signal to be transmitted between said first terminal and said second terminal according to a drive signal provided at said control input;	P. 3-1, 8: The Toko TK75001 switch includes a switch, which allows a signal to be transmitted between the first terminal and the second terminal according to a drive signal provided at the control input from a drive circuit.
a frequency variation circuit that provides a frequency variation signal;	P. 3-1, 8: The Toko TK75001 switch includes a frequency variation circuit, which provides a frequency variation signal. <i>See also</i> , P. 3-5.
an oscillator that provides an oscillation signal having a frequency range, said frequency of said oscillation signal varying within said frequency range according to said frequency variation signal, said oscillator further providing a maximum duty cycle signal comprising a first state and a second state; and	P. 3-1, 8: The Toko TK75001 switch includes an oscillator, which provides an oscillation signal having a frequency that varies within a frequency range according to the frequency variation signal. "If the sum of the current sense signal, error signal and ramp signal exceeds the Over-Current-Detector threshold indicating that the Current Control Detector has lost control of the switch current, the charging current at the timing capacitor will be reduced to about 25% for the remainder of the clock period. The reduced charging current causes as much as a two-fold reduction in switching frequency, effectively preventing short-circuit current run away." P. 3-1, <i>see also</i> , P. 3-5. The oscillator also provides a maximum duty cycle signal, i.e., a pulse signal, comprising a first state and a second state.
a drive circuit that provides said drive signal when said maximum duty cycle signal is in said first state and a magnitude of said oscillation signal is below a variable threshold level.	P. 3-1, 8: The Toko TK75001 includes a drive circuit, which provides the drive signal when the maximum duty cycle signal, i.e., pulse signal of the oscillator, is in the first state and a magnitude of the oscillation is below a variable threshold level.
2. The pulse width modulated switch of	It is inherent or would have been obvious to have the

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claim 1 wherein said first terminal, said second terminal, said switch, said oscillator, said frequency variation circuit and said drive circuit comprise a monolithic device.	first terminal, second terminal, switch, oscillator, frequency variation circuit, and drive circuit on a monolithic device.
4. The pulse width modulated switch of claim 1 further comprising a soft start circuit that provides a signal instructing said drive circuit to discontinue said drive signal when said magnitude of said oscillation signal is greater than a magnitude of said frequency variation signal.	It is inherent or would have been obvious to use the TK75001 with a soft start circuit that provides a signal instructing the drive circuit to discontinue the drive signal when said magnitude of the oscillation signal is greater than a magnitude of the frequency variation signal. Such circuits are provided in other prior art sources.
7. The pulse width modulated switch of claim 1 wherein said frequency of said oscillation signal varies within said frequency range with a magnitude of said frequency variation signal.	P. 3-1: The frequency of the oscillation signal varies from its typical frequency to one-fourth of that rate depending on the magnitude of the frequency variation signal. "If the sum of the current sense signal, error signal and ramp signal exceeds the Over-Current-Detector threshold indicating that the Current Control Detector has lost control of the switch current, the charging current at the timing capacitor will be reduced to about 25% for the remainder of the clock period. The reduced charging current causes as much as a two-fold reduction in switching frequency, effectively preventing short-circuit current run away." P. 3-1.
9. The pulse width modulated switch of claim 1 further comprising;	
a rectifier comprising a rectifier input and a rectifier output, said rectifier input receiving an AC mains signal and said rectifier output providing a rectified signal;	P. 3-10: As shown in Figure 7, the TK75001 can be used with a rectifier receiving an AC input and outputting a rectified signal.
a power supply capacitor that receives said rectified signal and provides a substantially DC signal;	P. 3-10: As shown in Figure 7, the TK75001 can be used with a power supply capacitor (C1) that receives the rectified signal and provides a substantially DC signal.
a first winding comprising a first terminal and a second terminal, said first winding receiving said substantially DC signal, said second terminal of said first winding coupled to said first terminal of said	P. 3-10: As shown in Figure 7, the TK75001 can be used with a first winding (N1) with a first and second terminal. As shown in Figure 7, the second terminal of the first winding is coupled to the first terminal of the switch (Q4).

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switch; and	
a second winding magnetically coupled to said first winding.	P. 3-10: As shown in Figure 7, the TK75001 can be used with a second winding (N2) magnetically coupled to the first winding.
10. The pulse width modulated switch of claim 1 wherein said variable threshold level is a function of a feedback signal received at a feedback terminal of said pulse width modulated switch.	It is inherent or would have been obvious for the variable threshold level to be a function of the feedback signal received at a feedback terminal of the TK75001.
11. A regulation circuit comprising:	P. 3-1, 8: The Toko TK75001 discloses a regulation circuit.
a first terminal;	P. 3-1, 8: The Toko TK75001 switch has a first terminal.
a second terminal;	P. 3-1, 8: The Toko TK75001 switch has a second terminal.
a feedback terminal coupled to disable the regulation circuit;	P. 3-1, 8: The Toko TK75001 switch has a feedback terminal ("FB" pin, also numbered '6') coupled to disable the regulation circuit.
a switch comprising a control input, said switch allowing a signal to be transmitted between said first terminal and said second terminal according to a drive signal provided at said control input;	P. 3-1, 8: The Toko TK75001 switch includes a switch, which allows a signal to be transmitted between the first terminal and the second terminal according to a drive signal provided at the control input from a drive circuit.
a frequency variation circuit that provides a frequency variation signal;	The Toko TK75001 switch includes a frequency variation circuit, which provides a frequency variation signal.
an oscillator that provides an oscillation signal having a frequency range, said frequency of said oscillation signal varying within said frequency range according to said frequency variation signal, said oscillator further providing a maximum duty cycle signal comprising a first state and a second state; and	P. 3-1, 8: The Toko TK75001 switch includes an oscillator, which provides an oscillation signal having a frequency that varies within a frequency range according to the frequency variation signal. "If the sum of the current sense signal, error signal and ramp signal exceeds the Over-Current-Detector threshold indicating that the Current Control Detector has lost control of the switch current, the charging current at the timing capacitor will be reduced to about 25% for the remainder of the clock period. The reduced charging current causes as much as a two-fold reduction in switching frequency, effectively preventing short-circuit current run away." P. 3-1. The oscillator also provides a maximum duty cycle signal, i.e., a pulse

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	signal, comprising a first state and a second state.
a drive circuit that provides said drive signal when said maximum duty cycle signal is in said first state and said regulation circuit is not disabled.	P. 3-1, 8: The Toko TK75001 includes a drive circuit, which provides the drive signal when the maximum duty cycle signal, i.e., pulse signal of the oscillator, is in the first state and the regulation circuit is not disabled.
13. The regulation circuit of claim 11 further comprising a soft start circuit that provides a signal instructing said drive circuit to discontinue said drive signal according to a magnitude of said frequency variation signal.	It is inherent or would have been obvious for the TK75001 to include a soft start circuit that provides a signal instructing the drive circuit to discontinue the drive signal according to a magnitude of the frequency variation signal.
16. The regulation circuit of claim 11 wherein said first terminal, said second terminal, said switch, said frequency variation circuit, and said drive circuit comprise a monolithic device.	It is inherent or would have been obvious to have the first terminal, second terminal, switch, oscillator, frequency variation circuit, and drive circuit on a monolithic device.
17. The regulation circuit of claim 11 further comprising;	
a rectifier comprising a rectifier input and a rectifier output, said rectifier input receiving an AC mains signal and said rectifier output providing a rectified signal;	P. 3-10: As shown in Figure 7, the TK75001 can be used with a rectifier receiving an AC input and outputting a rectified signal.
a power supply capacitor that receives said rectified signal and provides a substantially DC signal;	P. 3-10: As shown in Figure 7, the TK75001 can be used with a power supply capacitor (C1) that receives the rectified signal and provides a substantially DC signal.
a first winding comprising a first terminal and a second terminal, said first winding receiving said substantially DC signal, said second terminal of said first winding coupled to said first terminal of said switch; and	P. 3-10: As shown in Figure 7, the TK75001 can be used with a first winding (N1) with a first and second terminal. As shown in Figure 7, the second terminal of the first winding is coupled to the first terminal of the switch (Q4).
a second winding magnetically coupled to said first winding.	P. 3-10: As shown in Figure 7, the TK75001 can be used with a second winding (N2) magnetically coupled to the first winding.